

SUPPORT FOR THE AMENDMENT

Claim 10 has been canceled.

Claims 1 and 11 have been amended.

The amendment of Claim 1 is supported by original Claims 1 and 10. The amendment of Claim 11 is supported by original Claims 1, 10, and 11.

No new matter is believed to have been added by entry of this amendment.

REMARKS

Claims 1-9 and 11-31 are pending in the present application.

Applicants respectfully request reconsideration of the application, as amended, in view of the following remarks.

The present invention as set forth in **Claim 1** relates to a process for producing a three-dimensional object, comprising:

- a) providing a layer of pulverulent substrate,
- b) selectively applying at least one microwave-absorbing first susceptor to one or more regions of the substrate, wherein the one or more regions are selected in accordance with a cross section of the three-dimensional object, wherein the first susceptor comprises a member selected from powders of metals or metal compounds, ceramic powders, graphite, activated charcoal, or one or more protic liquids selected from saturated monohydric linear aliphatic alcohols, polyhydric linear aliphatic alcohols, monohydric branched aliphatic alcohols, polyhydric branched aliphatic alcohols, monohydric cyclic aliphatic alcohols or polyhydric cyclic aliphatic alcohols, each undiluted, or in a mixture with water,
- c) treating the layer at least once with microwave radiation, to melt the one or more regions containing the first susceptor to the layer of pulverulent substrate, and, optionally, to melt the one or more regions containing the first susceptor with other regions located in one or more substrate layers situated thereunder, thereabove, or combinations thereof, wherein, said other regions optionally contain a microwave-absorbing second susceptor, and wherein said first susceptor and said second susceptor are the same or different, and
- d) cooling the layer.

Applicants respectfully submit that Droscher et al and Lause et al do not affect the patentability of Claim 1 or the claims dependent therefrom.

The rejection of Claims 1-19 and 26-31 under 35 U.S.C. §103(a) over Droscher et al in view of Lause et al is obviated by amendment.

The Examiner now alleges that the present invention is obvious in view of Droscher et al in view of Lause et al. It should be noted that Droscher et al corresponds to DE 197 27 677, which is discussed on page 2, lines 10-16 of the specification. Droscher et al discloses a method of generating prototypes, by exposing selected regions of pulverulent layers to a focused microwave beam. The controlled microwave beam bonds the exposed pulverulent substrates within a layer, and also bonds these substrates to the pulverulent substrates in the layer situated thereunder. Bonding takes place via adhesive bonding, sintering, or fusion. This process also requires complicated technology in order to ensure that the microwave radiation reaches only the selected regions.

In the present invention, the inventors were able to provide a simplified method that would be able to be performed by simple microwave radiation means (e.g., a microwave oven found in most kitchens). The improvement in the present invention over the state of the art represented by Droscher et al lies in the specific selective application of one or more microwave-absorbing susceptors to one or more regions of the substrate. Thus, whereas the pulverulent substrate absorbs microwave radiation only poorly or not at all, the susceptor(s) absorbs the radiation and passes the energy absorbed in the form of heat to the substrate surrounding the susceptor(s). In the present invention, the susceptors are described on page 14, lines 3-16 as including: pulverulent substances, e.g., metal powders, metal compounds, ceramic powders, graphite, carbon black, activated charcoal, water or protic liquids selected

from the group consisting of saturated mono- or polyhydric linear, branched, or cyclic aliphatic alcohols, or mixtures thereof, each undiluted, or mixed with water (see also previously pending Claim 10).

In the Office Action, the Examiner recognizes that Droscher et al do not explicitly teach selectively applying at least one microwave-absorbing first susceptor to one or more regions of a substrate. However, the Examiner references column 5, lines 9-12 of Droscher et al as disclosing the use of water as a thermal transmitter to improve heat flow.

Lause et al is referenced by the Examiner further disclosing water as a thermal transmitter. It is not apparent where Lause et al contains this alleged teaching as “water” is only referenced once in this document. Specifically, Lause et al only use the term “water” in the following sentence appearing at column 8, line 68 to column 9, line 4: “Such lenses are typically made from poly(methyl methacrylate) by adhesively bonding appropriately colored and water-white lens components, but the resulting adhesively bonded structure is weaker than one which is M-welded.” Certainly this disclosure of Lause et al does not support the Examiner’s allegation that water is “a thermal transmitter for improving heat flow.”

Nonetheless, to expedite examination and clearly distinguish the present invention from the disclosure of Droscher et al, Applicants have amended Claim 1 to define the first susceptor as in previously pending Claim 10. However, Applicants have removed “water” per se from the definition of the first susceptor so that it only appears in the definition of the first susceptor in the role of a diluent for the one or more protic liquids selected from saturated monohydric linear aliphatic alcohols, polyhydric linear aliphatic alcohols, monohydric branched aliphatic alcohols, polyhydric branched aliphatic alcohols, monohydric cyclic aliphatic alcohols or polyhydric cyclic aliphatic alcohols. Neither Droscher et al nor Lause et al disclose the process of amended claim 1 or the claims dependent therefrom.

Accordingly, Applicants submit that Droscher et al and Lause et al fail to render the claims as amended obvious. Withdrawal of this ground of rejection is requested.

Applicants submit that the application is now ready for allowance, and early notification of such action is earnestly solicited.

Respectfully submitted,

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